

## Fan Coil Thermostat T6169

The T6169 thermostats control line voltage valves and/or blower motors on Fan Coil units in manual or automatic changeover, cooling, heating or cooling/heating systems. These thermostats feature single fan and/or system manual switches.

- Combines thermostat, single system and/or fan control switch in one deluxe-styled unit.
- Three speed manual FAN control on some models.
- Fan can be wired for continuous ("ON") or cycled ("AUTO") operation.
- Temperature scale range 44 - 86° F (7 - 28° C).
- SYSTEM switch OFF position breaks heating/cooling and fan circuits.
- Colour-coded leadwire connections.
- Mounts on << 2" x 4" >> single or double-gang vertical outlet box.



T6169A SHOWN

### Specifications

#### DIMENSIONS: H x W x D x -d( projection into box.)

117 mm high, 114 mm wide, 47 mm deep , -15 mm  
(4-5/8" x 4-1/2" x 1-7/8" x -5/8").

#### APPROVALS:

Canadian Standards Association Certified.  
Underwriters Labs. Listed

#### ACCESSORIES:

272804A Range stop and locking cover screws  
TG511 Thermostat guard  
272735T Mud ring (beige color)

#### MODELS

		Application Figs. for V4043/V4044			Application Figs. for "VC" Valve		
O.S. FAMILY		T6169A	T6169B	T6169C	T6169B	T6169B	T6169C
SYSTEM SWITCH	AUTO•OFF			X			X
	HEAT•OFF•COOL		X			X	
	HIGH•MED•OFF•LO	X			X		
V4043/V4044 VALVES	2-PIPE, FAN only	1b,2b	6a				
	2-PIPE, 1 VALVE	1a/b,2a/b	6a		4a/b,5a/b	7a	
	4-PIPE, 2 VALVES		6b	8a		7b	9a
FAN MODE	"AUTO" (cycled)	1b,2b,3b			4a/b,5b		
	" ON "(constant)	1a,2a,3a			5a		
HEAT/COOL CHANGEOVER	MANUAL		X			X	
	REMOTE	3a/b		X	5a/b		X
COOLING ONLY		1a/b			4a		
HEATING ONLY		2a/b			4b		
RESISTIVE HEATING			6b	8a			

#### ELECTRICAL RATINGS: Thermostat and manual Switch.

Fan Mode	T6169			Circuit Load (FLA)	Voltage ( 50-60Hz )			
	A	B	C		120V	208V	240V	277V
Auto	x	x	x	Fan+Cool	8.0	4.4	4.0	3.3
	x	x	x	Fan+Heat	8.0	4.4	4.0	3.3
		x	x	Fan+Res. Heat (N.I.)	8.0 + 13	4.4 + 7.5	4.0 + 6.5	3.3 + 5.5
On	x			Fan+Cool	8.0+8.0	4.4+4.4	4.0+4.0	3.3+3.3
	x			Fan+Heat	8.0+8.0	4.4+4.4	4.0+4.0	3.3+3.3

- Notes :** 1. " x " denotes the only approved loads for each model.  
2. Locked Rotor Amperage = 6 x FLA  
3. For a particular pilot duty load,  
current draw x 1.5 = total circuit load.

### Installation and Checkout

#### ⚠ CAUTION

1. Disconnect power supply before beginning installation to prevent electrical shock and equipment damage.
2. Installer must be a trained, experienced service technician.
3. All wiring must comply with local electrical codes, ordinances, and regulations.

#### MOUNTING

Mount thermostat on inside wall about 1.5 m [ 5' ] above the floor. Do not mount where thermostat can be affected by drafts, radiant heat from the sun or other sources of heat.

T6169s' mount on NEMA standard 2"x 4" vertical single or double gang outlet box. 4" square electrical box requires "mud ring" adaptor (not provided).

#### WIRING

Internal schematic and external connections are shown in Figs. 1 through 7. Figs. 1a,1b, 2a,2b, 3a,3b, 6a & 6b, 8a are wiring schematics the V4043/V4044 series hydronic valves. Figs. 4a,4b, 5a,5b, 7a & 7b, 9a for are wiring schematics for the Honeywell "VC" series, 2 wire + common version, hydronic valves. Use solderless connectors or other approved methods to wire thermostat into the system. 150 mm colour-coded leadwires are provided.

#### OPERATION

As the temperature changes, thermostat contacts make to open a valve and/or power a blower to provide heating or cooling. Depending on model, heating or cooling is manually or automatically selectable. The speed at which the air is circulated is controlled by the HI, MED, or LO setting of the SYSTEM switch on the T6169A model.

Constant or intermittent fan, cooling only or heating only operation are chosen during installation.

## T6169

### Installation and Checkout

#### CHECKOUT

Turn on power. Check out operation according to SYSTEM switch present.

SYSTEM OFF de-energizes valve and fan circuits.

#### ■ SYSTEM : HI - MED - OFF - LO ( T6169A )

Set FAN to LOW. Fan will either come on constantly or cycle with the thermostat depending on whether it is wired for constant or cycled fan operation.

Check the T6169A by raising the temperature setting to start the heating cycle or lowering the temperature setting to start the cooling cycle. Valve and/or fan will operate on heating or cooling cycle depending on whether hot or chilled water is being supplied.

Set FAN to MED and HI to check out fan speed.

#### ■ SYSTEM : HEAT - OFF - COOL ( T6169B )

Set SYSTEM to HEAT. Rotate thermostat knob clockwise to energize heating valve.

Set SYSTEM to COOL. Rotate thermostat knob counter-clockwise to energize.

#### ■ SYSTEM : AUTO - OFF ( T6169C )

Set SYSTEM to AUTO. In heating mode, rotate thermostat knob clockwise to energize heating valve. In cooling mode, rotate thermostat knob counter-clockwise to energize cooling valve.

#### SETTING

The T6169 temperature scale range is 44 - 86°F (7 - 28°C). Set the dial marker line to the desired temperature.

#### ALTITUDE COMPENSATION

The thermostats are accurately calibrated at the factory for accuracy at 500 feet above sea level. The vapor-filled diaphragm sensor is affected by barometric pressure and altitude. Deviation up to  $\pm 1^\circ\text{F}$  ( $1/2^\circ\text{C}$ ) are within normal operation. Control point drops  $2^\circ\text{F}$  every 1000 feet ( $1^\circ\text{C}/300\text{m}$ ) above sea level. See table 1 for recommended action.

Elevation (in feet)	Typical City	Recommended Action
0 to 2000	Toronto, Ontario Phoenix, Arizona	Leave as is
2000 to 4000	Las Vegas, Nevada Calgary, Alberta	Move clockwise 2 to 3 marks
4000 to 6000	Denver, Colorado Salt Lake City, Utah	Move clockwise 4 to 5 marks

Table 1 - Altitude Correction

#### To Recalibrate

1. Remove cover. Set the tab on setpoint knob to the leftmost radial mark visible on top of the triangular arm that holds the diaphragm sensor.
2. **Without rotating the knob**, remove it from the thermostat by pulling straight out, while holding the base against the wall.
3. Now, rotate the removed setpoint knob clockwise by the amount of temperature error. Each mark on the triangular arm represents  $2^\circ\text{F}$  ( $1^\circ\text{C}$ ) of adjustment. Snap the knob back onto the white cam.
4. Install the cover. Wait five minutes to let the thermostat thermally stabilize and re-check calibration. Do not assume a thermostat is out of calibration until it has been installed and allowed to operate for several hours.

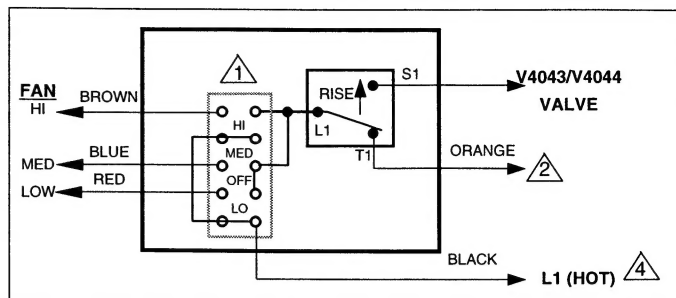


Fig. 1a - T6169A, 6-wire for single V4043/V4044 series valve, constant fan, cooling only.

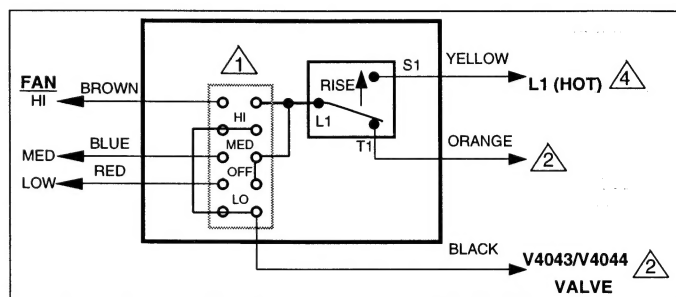


Fig. 1b - T6169A, 6-wire for single V4043/V4044 series valve or no valve, cycled fan, cooling only.

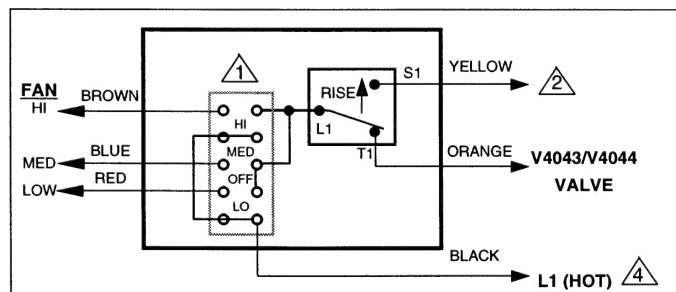


Fig. 2a - T6169A, 6-wire for single V4043/V4044 series valve, constant fan, heating only.

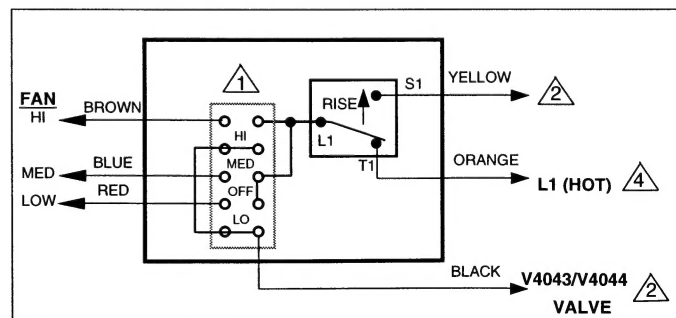
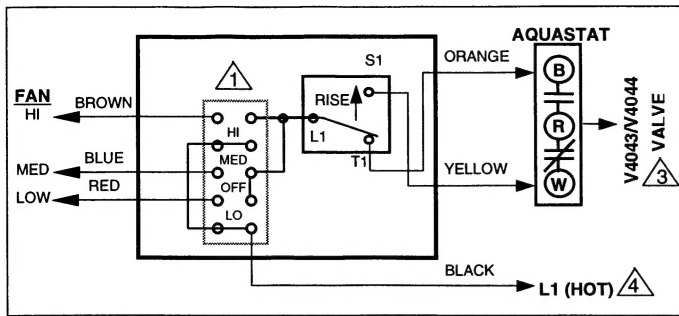
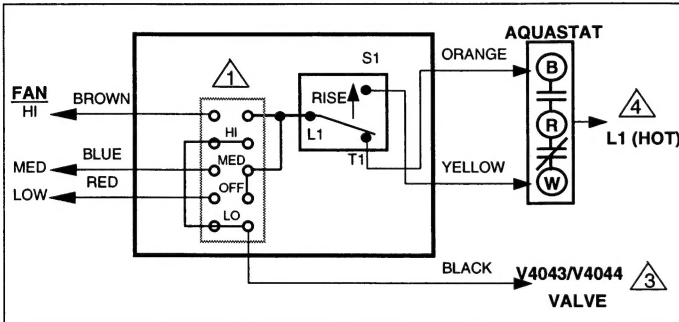


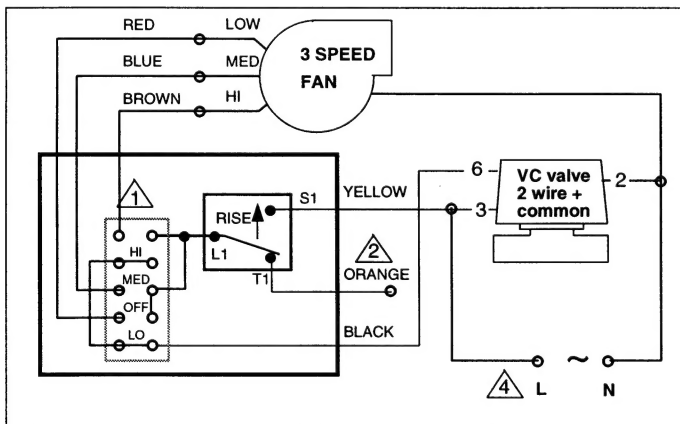
Fig. 2b - T6169A, 6-wire for single V4043/V4044 series valve or no valve, cycled fan, heating only.



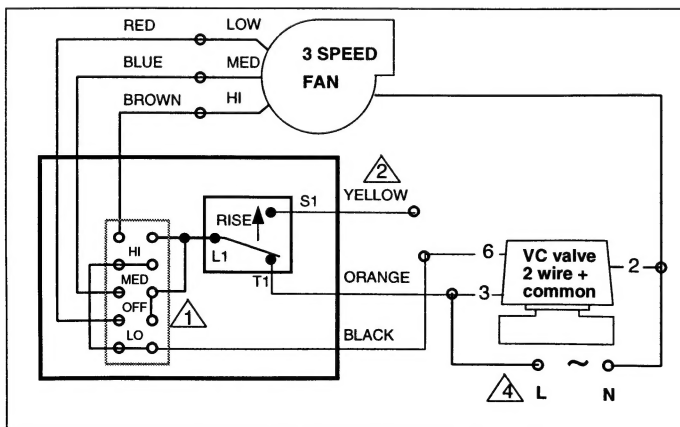
**Fig. 3a - T6169A, 6-wire for single V4043/V4044 series valve, constant fan, auto heat / cool changeover.**



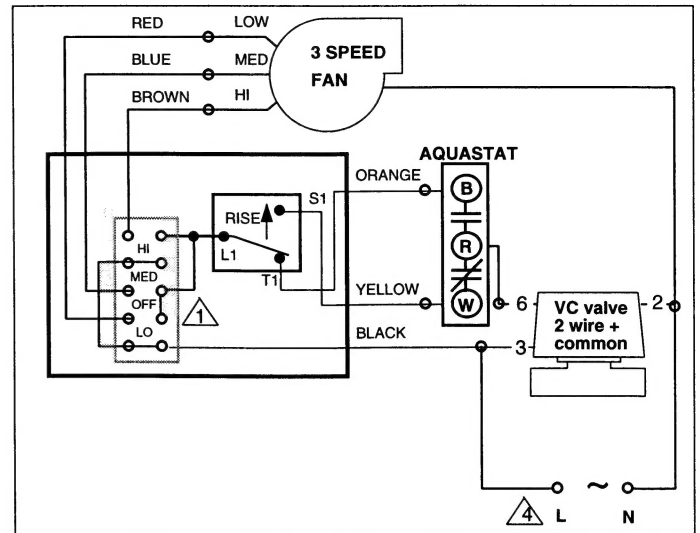
**Fig. 3b - T6169A, 6-wire for single V4043/V4044 series valve, cycled fan, auto heat / cool changeover.**



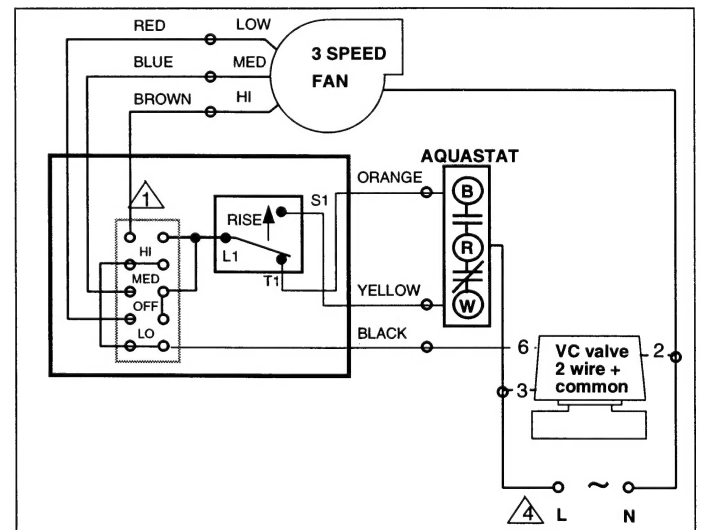
**Fig. 4a - T6169A, 6-wire for single "VC" series valve (2 wire + common version), cycled fan, cooling only.**



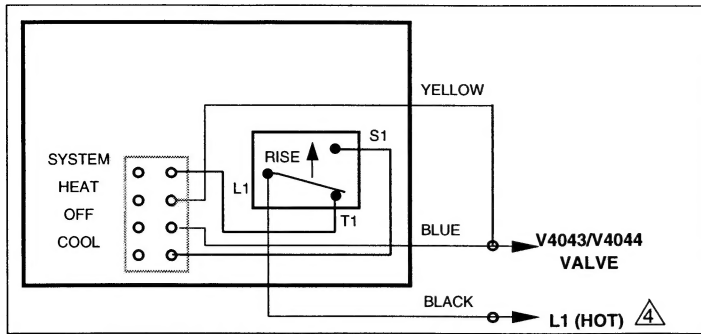
**Fig. 4b - T6169A, 6-wire for single "VC" series valve (2 wire + common version), cycled fan, heating only.**



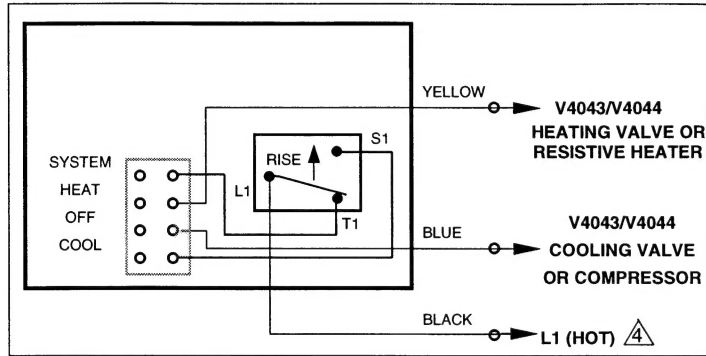
**Fig. 5a - T6169A, 6-wire for single "VC" series valve (2 wire + common version), constant fan, heating/cooling auto changeover.**



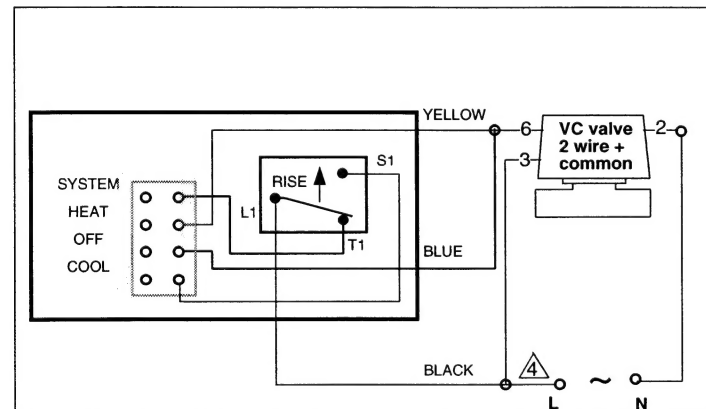
**Fig. 5b - T6169A, 6-wire for single "VC" series valve (2 wire + common version), cycled fan, heating/cooling auto changeover.**



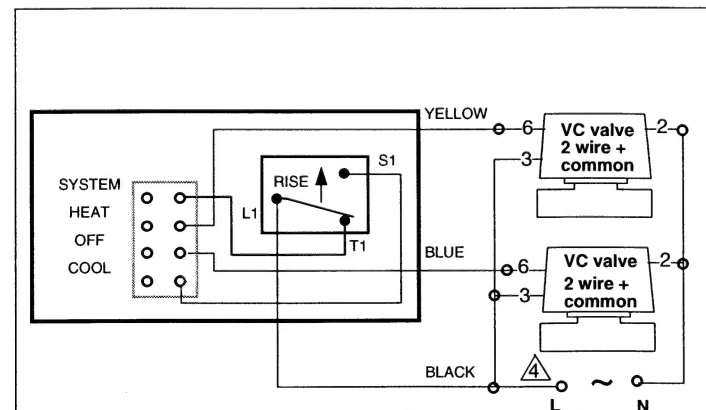
**Fig. 6a - T6169B, 3-wire for single V4043/V4044 series valve, manual heat / cool changeover.**



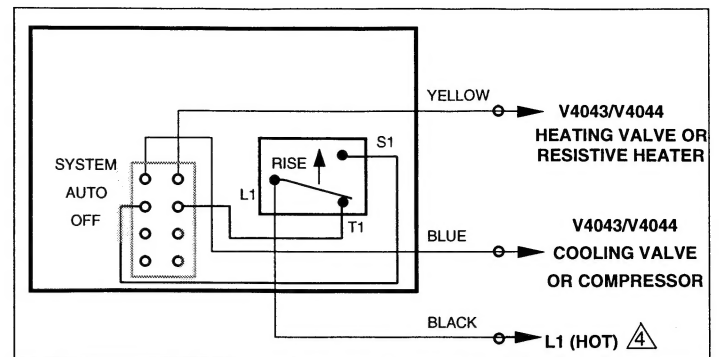
**Fig. 6b - T6169B, 3-wire for dual V4043/V4044 series valve, manual heat / cool changeover.**



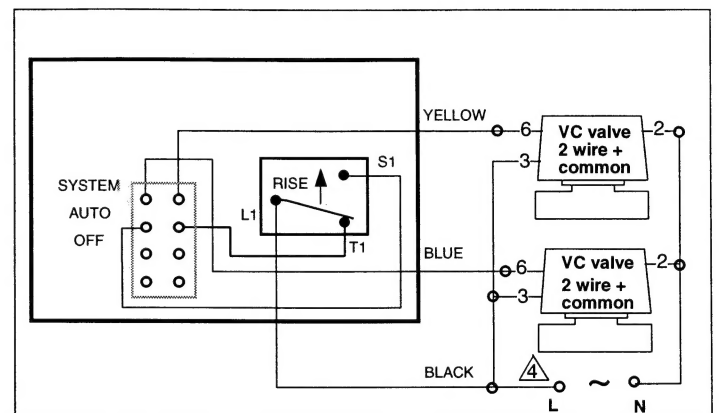
**Fig. 7a - T6169B, 3-wire for single "VC" series valve (2 wire + common version), manual heat / cool changeover.**



**Fig. 7b - T6169B, 3-wire for dual "VC" series valve (2 wire + common version), manual heat / cool changeover.**



**Fig. 8a - T6169C, 3-wire for dual V4043/V4044 series valve.**



**Fig. 9a - T6169C, 3-wire for dual "VC" series valve (2 wire + common version)**

#### Notes to Figures 1 through 9

- 1 OFF BREAKS VALVE AND FAN CIRCUITS.
- 2 INSULATE LEAD IF LEAD NOT USED.
- 3 VALVE CYCLES ON TEMPERATURE FALL(RISE) WHEN AQUASTAT SENSES HOT (COLD) SUPPLY WATER.
- 4 PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION REQUIRED.

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